

IN THE CLAIMS:

Please amend claims 28, 34, 45, and 49-54, and add claims 55 and 56 as follows.

Claims 1-27. (Cancelled)

28. (Currently Amended) ~~Method for providing location assistance information to a mobile station of a communications network, the method comprising the steps of~~A method, comprising:

[[[-]]] estimating visibilities of a plurality of satellites with respect to ~~the~~a mobile station, said plurality of satellites being satellites of a satellite positioning system;

[[[-]]] selecting a group of said plurality of satellites with the best estimated visibilities with respect to the mobile station; and

[[[-]]] sending, to the mobile station, location assistance information relating to at least said group of satellites, wherein the location assistance information relating to said group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.

29. (Previously Presented) A method as defined in claim 28, wherein said group of satellites contains a predetermined number of satellites.

30. (Previously Presented) A method as defined in claim 28, wherein location assistance information relating to said group of satellites is sent in one location assistance message.

31. (Previously Presented) A method as defined in claim 28, wherein location assistance information relating to said group of satellites is sent using a plurality of location assistance messages, each location assistance message of said plurality of location assistance messages containing information about one satellite of said satellite positioning system.

32. (Previously Presented) A method as defined in claim 28, wherein location assistance information relating to said group of satellites is sent in response to receipt of a location assistance information request from the mobile station.

33. (Previously Presented) A method as defined in claim 28, wherein location assistance information relating to said group of satellites is sent periodically.

34. (Currently Amended) A method as defined in claim 28, further comprising:
~~the steps of~~ selecting a further group of satellites with the next best estimated visibilities with respect to the mobile station.

35. (Previously Presented) A method as defined in claim 34, wherein location assistance information relating to said group of satellites is sent to the mobile station before location assistance information relating to said further group of satellites.

36. (Previously Presented) A method as defined in claim 34, wherein location assistance information relating to said group of satellites is sent in a first location assistance message and location assistance information relating to said further group of satellites is sent in a second location assistance message.

37. (Previously Presented) A method as defined in claim 34, wherein location assistance information is sent using a plurality of location assistance messages, each location assistance message of said plurality of location assistance messages containing information about one satellite of said satellite positioning system.

38. (Previously Presented) A method as defined in claim 34, wherein location assistance information relating to said group of satellites is sent in response to receipt of a location assistance information request from the mobile station.

39. (Previously Presented) A method as defined in claim 38, wherein location assistance information relating to said further group of satellites is sent to the mobile station upon a request for location assistance information relating to said further group.

40. (Previously Presented) A method as defined in claim 34, wherein location assistance information relating to said group of satellites is sent periodically.

41. (Previously Presented) A method as defined in claim 40, wherein location assistance information relating to said further group of satellites is sent as often as location assistance information relating to said group of satellites.

42. (Previously Presented) A method as defined in claim 40, wherein location assistance information relating to said further group of satellites is sent less often than location assistance information relating to said group of satellites.

43. (Previously Presented) A method as defined in claim 34, wherein location information relating to said group of satellites and to said further group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.

44. (Previously Presented) A method as defined in claim 28, wherein said group of satellites contains three or four satellites of the satellite positioning system.

45. (Currently Amended) A method as defined in claim 28, further comprising:

~~the step of estimating visibilities of the satellites based on elevation angles of the satellites with respect to an estimated location of the mobile station.~~

46. (Previously Presented) A method as defined in claim 45, wherein obstructions in the vicinity of the estimated location of the mobile station are taken into account in estimating visibilities of the satellites with respect to the mobile station.

47. (Previously Presented) A method as defined in claim 28, wherein said location assistance information is for a mobile-assisted location method.

48. (Previously Presented) A method as defined in claim 28, wherein said location assistance information is for a mobile-based location method.

49. (Currently Amended) ~~A network element for providing location assistance information to a mobile station of a communications network, the network element being configured to~~An apparatus, comprising:

~~estimate~~an estimator configured to estimate visibilities of a plurality of satellites with respect to a mobile station, said satellites being satellites of a satellite positioning system;

~~select~~a selector configured to select a group of said plurality of satellites with the best estimated visibilities with respect to the mobile station; and

~~sends a transmitter configured to transmit~~, to a mobile station, location assistance information relating to at least said group of satellites, wherein the location assistance information relating to said group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.

50. (Currently Amended) ~~A network element~~The apparatus as defined in claim 49, further comprising:

a receiver configured to receive location assistance information relating to satellites of said satellite positioning system.

51. (Currently Amended) ~~A network element~~The apparatus as defined in claim 49, wherein the network element is a location server.

52. (Currently Amended) ~~A communications system for providing location assistance information~~, comprising:

[[[-]]] ~~at least one reference receiver or~~receiving means for receiving a satellite positioning system~~for obtaining~~ configured to obtain location assistance information relating to satellites of the satellite positioning system;]

[[[-]]] estimating means for estimating visibilities of a plurality of satellites of the satellite positioning system with respect to a mobile station;]

[[-]] selecting means for selecting a group of said plurality of satellites with the best estimated visibilities with respect to the mobile station; and

[[-]] sending means for sending, to the mobile station, location assistance information relating to said group of satellites, wherein the location assistance information relating to said group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.

53. (Currently Amended) A-~~communications~~ system as defined in claim 52, wherein said estimating means for estimating visibilities of satellites with respect to the mobile station are provided in a location server.

54. (Currently Amended) A-~~communications~~ system as defined in claim 52, wherein said estimating means for estimating visibilities of satellites with respect to the mobile station are provided in a number of network elements.

55. (New) An apparatus, comprising:

a receiver configured to receive a satellite positioning system configured to obtain location assistance information relating to satellites of the satellite positioning system; an estimator configured to estimate visibilities of a plurality of satellites of the satellite positioning system with respect to a mobile station;

a selector configured to select a group of said plurality of satellites with the best estimated visibilities with respect to the mobile station; and

a transmitter configured to transmit to the mobile station, location assistance information relating to said group of satellites, wherein the location assistance information relating to said group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.

56. (New) An apparatus, comprising:

estimating means for estimating visibilities of a plurality satellites with respect to a mobile station, said satellites being satellites of a satellite positioning system;

selecting means for selecting a group of said plurality of satellites with the best estimated visibilities with respect to the mobile station; and

transmitting means for transmitting to a mobile station, location assistance information relating to at least said group of satellites, wherein the location assistance information relating to said group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.